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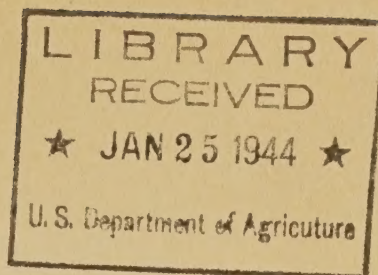
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United States Department of Agriculture

RURAL ELECTRIFICATION IN THE UNITED STATES

By

annual survey 1879
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Engineering



Although horsepower on the farm probably never will be entirely supplanted by electric power, electrical energy is being used extensively and profitably by farmers in many sections of the country. In the last seven years its use has increased rapidly, so that today more than 644,500 of the total of 6,288,648 farms in the United States are making use of electric power lines.

During 1930 farmers used 1,779,940,000 kilowatt hours of electricity, at a cost of \$46,187,000, according to a recent report of the National Electric Light Association. This sum is more than three times the amount of money spent in the same year by the railway companies for electricity. The consumption of electric power is equivalent to 2,385,000,000 horsepower hours and comprises 15 per cent of the total of 16,000,000,000 horsepower hours of power reported as used annually by farmers.

In those regions where farmers have experienced the advantages of rural electrification, the consumption of electricity has grown steadily. Recently an official of one of the western power companies reported that there had been an increase in the average consumption per farm served by it from 422 kilowatt hours in 1922 to 1,181 kilowatt hours in 1930, and that the average consumption per farm in 1930 was 177 kilowatt hours greater than in 1929. Similar growth has been reported by other power companies.

Many uses for electric power on the farm have been developed since its first use for pumping water for irrigation, which operation still consumes the largest amount of electrical energy reported as used on farms. Operators of dairy farms, poultry farms, truck farms, and others, where crops are produced with high priced labor are finding electric power a useful and valuable servant. Farmers are also using it for operating feed grinding machines, and threshing machines, and for filling silos, driving cotton gins, and pumping water.

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The farmers' wives are grateful for its labor-saving abilities and its convenience in house lighting, in operation of washing machines and ironers, and refrigerators, and in the use which it affords of the many electrical household appliances.

The fact that electric power is adaptable to automatic control, and that electric motors require little attention, besides starting and stopping, makes it especially valuable to farms. Manufacturers are taking advantage of the automatic control possibilities in designing household refrigerators and domestic water supply systems. Several feed grinding plants also have been built with either automatic or semiautomatic controls. There are many opportunities for automatic control of electrical power about the farmstead, and in the future no doubt there will be a considerable increase in the number of devices so equipped.

Of many new operations to which electricity has been applied, one is the heating of hotbeds. Investigations along this line have been conducted by several agricultural experiment stations with promising results. Electricity seems also to have a place in operating equipment used for dehydrating crops, particularly where moderate temperatures must be maintained. The use of electricity in dehydrators for the preservation of nuts has been found to be practical in California, where power is obtained at a low rate.

In the development of rural electrification since 1924, controversies between farmers and power companies have been practically nonexistent. In 1923-24, it appeared that there might develop a lack of understanding between farmers who desired rural electrification and power companies who did not believe that such an undertaking could be made profitable to either the farmer or the company. To meet this situation, a group of far-seeing men in the agricultural industry created the Committee on the Relation of Electricity to Agriculture, which group consists of representatives of the farms, of the public utility companies, of several governmental departments, and of several technical organizations.

Under the auspices of this group studies of electrical problems were undertaken in some 27 States, with the result that the conditions under which electric service may be supplied to rural communities with a profit to the farmer and to the power company have been quite generally determined. Efforts were made to find the facts in each case, and to work out the best practical solution.

